

Global university rankings at the end of 2006

Is this the hierarchy we have to have?

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Jiao Tong rankings: weightings

criterion	weighting
Alumni of institution: Nobel Prizes and field medals	10%
Staff of institution: Nobel Prizes and field medals	20%
High citation (HiCi) researchers	20%
Articles in <i>Nature</i> and <i>Science</i>	20%
Articles in citation indexes in science, social science, humanities	20%
Research performance (compiled as above) per head of staff	10%
<i>total</i>	100%

Top 20 research universities 2006

from Shanghai Jiao Tong University data

1	HARVARD USA	11	Yale USA
2	Cambridge UK	12	Cornell USA
3	Stanford USA	13	UC San Diego USA
4	UC Berkeley USA	14	UC Los Angeles USA
5	MIT USA	15	Pennsylvania USA
6	Caltech USA	16	Wisconsin-Madison USA
7	Columbia USA	17	Washington (Seattle) USA
8	Princeton USA	18	UC San Francisco USA
8	Chicago USA	19	Tokyo Japan
10	Oxford UK	20	Johns Hopkins U USA

Two thirds of the Shanghai Jiao Tong top 100 universities are from English-speaking nations

HiCi researchers 1

Thomson/ISI data base

USA	3614
Germany	224
Japan	221
Canada	162
France	138
Australia	101
Switzerland	94
Sweden	55
China	20
Indonesia	0

HiCi researchers 2

Thomson/ISI data base

Harvard USA	168
Stanford USA	132
Berkeley USA	82
MIT USA	74
Cambridge UK	44
Oxford UK	29

Times Higher rankings: weightings

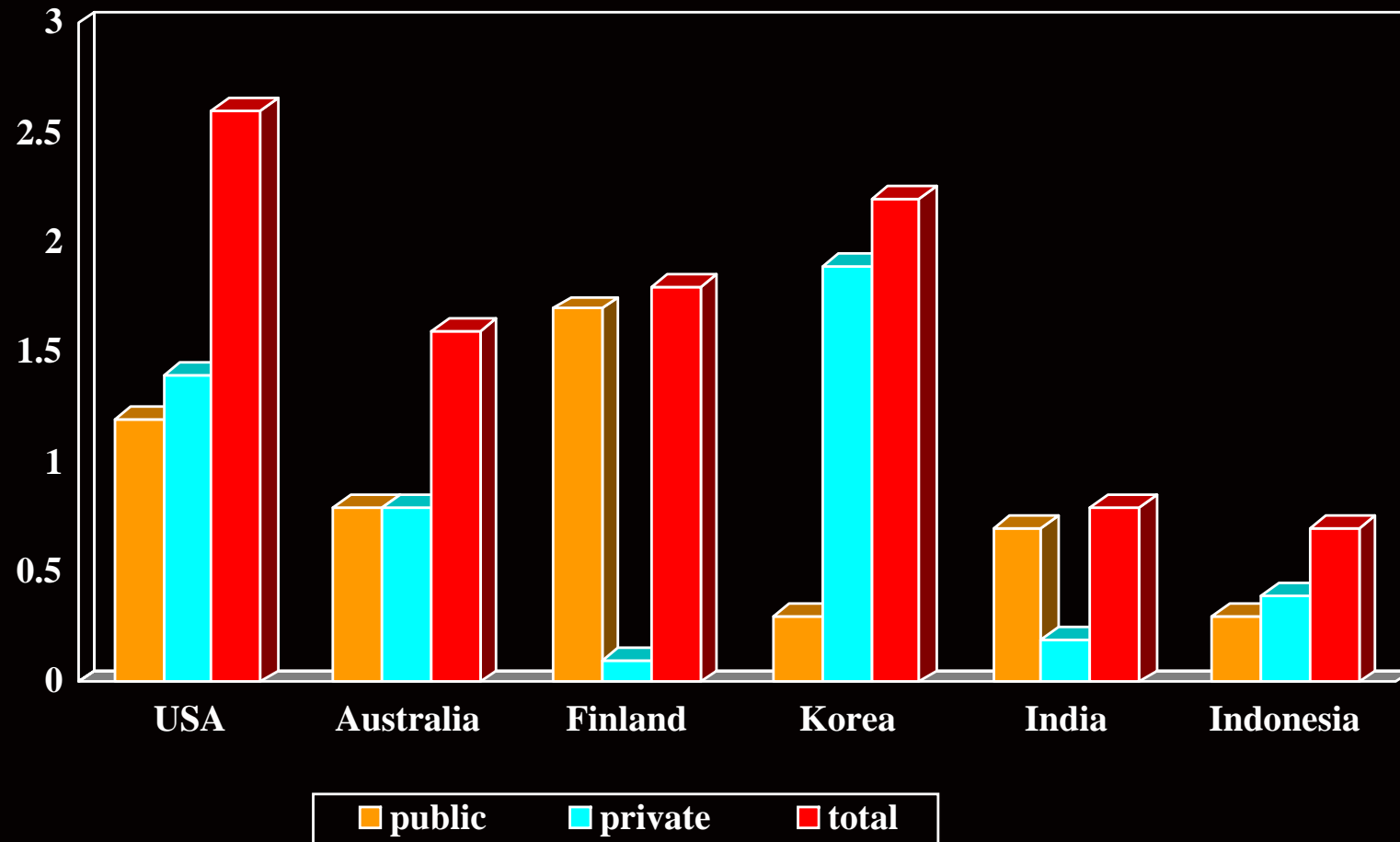
criterion	weighting
'Peer review' (survey, not transparent)	40%
Global employer review (survey, not transparent)	10%
Internationalization of academic staff	5%
Internationalization of student body (quantity measure)	5%
Student-academic staff ratio (proxy for 'teaching quality')	20%
Research citations per head of academic staff	20%
<i>total</i>	100%

Anomalies in the *Times* rankings

some cases of sharp changes between 2005 and 2006

institution	<i>Times Higher</i> ranking		
	2004	2005	2006
Fudan, China	195	72	=116
Osaka, Japan	69	=105	70
Seoul National, Korea	118	= 93	63
Malaya, Malaysia	89	=169	192
Royal Melbourne Institute of Tech, Australia	55	82	146
Otago, New Zealand	114	=186	= 79
Munich, Germany	99	55	98
Geneva, Switzerland	--	= 88	39
Ecole Polytechnique, France	27	10	37
School of Oriental & African Studies, UK	44	=103	= 70
Purdue, USA	59	61	127
Vanderbilt, USA	156	=114	53

Investment in tertiary education as a proportion of GDP (2002)



On the level playing field we have...

	USA vs. ...	Indonesia
population 2005	296.5 million	220.6 million
GDP PPP 2005	\$12,409 billion	\$643 billion
GNI per capita PPP 2005	\$43,740	\$3730
GDP spent on tertiary education 2004	2.9%	0.7%
scientific papers 2001	200,870	207
Jiao Tong top 500 universities 2006	33.4%	0
Jiao Tong top 100 universities 2006	54.0%	0

Possible global models?

- Ivy League research universities in the USA
- Flagship state research universities in the USA
- For-profit vocational institutions, as in U Phoenix
- British state-affected research universities
- European state-centred research universities (various)
- German *Fachhochschulen* etc.
- State-building university/reform tradition in Latin America
- State-led science universities in East Asia
- Large open and distance education providers
- Specialists in business, medicine, agriculture, arts, etc.
- Specialist research institutes
- etc., etc.

Rising science powers

Nations exhibiting fastest growth in scientific papers
1988-2001 (ISI data)

	change 1988 to 2001 (1988 = 100)
Korea	1430
Turkey	810
Singapore	630
Taiwan China	570
Portugal	500
Mainland China	450
Brazil	410
Mexico	360

Languages of 100 million +

English	1000 million
Putonghua ('Mandarin')	1000
Hindi/ Urdu	900
Spanish/ Portuguese	450/ 200
Russian	320
Arabic	250
Bengali	250
Malay-Indonesian	160
Japanese	130
French	125
German	125

Rankings are formative

University rankings shape the global market in higher education as much as (or more than) they describe it.

By changing the rankings we alter global competition.

Some resources

- Comparison of different rankings by the Education Policy Institute of Canada at -
<http://www.educationalpolicy.org/pdf/World-of-Difference-200602162.pdf>
- Shanghai Jiao Tong University rankings -
<http://ed.sjtu.edu.cn/rank/2006/ARWU2006TOP500list.htm>
- The Center for Higher Education Development (CHE)/ Die Zeit interactive rankings in English at –
<http://www.daad.de/deutschland/studium/hochschulranking/04690.en.html>
- Summary and analysis of rankings issues by David Dill and Maarja Soo, ‘Academic quality, league tables and public policy’, *Higher Education*, 49, pp. 495-533 (2005)